DOCUMENT RESUME

ED 432 932 HE 032 231

AUTHOR	Groff, Warren H.
TITLE	Strategic Planning (Thinking) for the Digital Era.
PUB DATE	1999-05-00
NOTE	44p.
PUB TYPE	Opinion Papers (120)
EDRS PRICE	MF01/PC02 Plus Postage.
DESCRIPTORS	Economic Progress; Foreign Countries; Higher Education; Information Dissemination; International Cooperation; *Long Range Planning; Partnerships in Education; School Business Relationship; Science and Society; *Strategic Planning; *Technological Advancement; Technology Transfer; Trend Analysis; Universities; *World Wide Web
IDENTIFIERS	Electronic Commerce; *Taiwan

ABSTRACT

This paper examines trends and issues in strategic planning for business and educational institutions on an international level. The paper is organized into sections on analysis, visions, and action plans. Under "analysis" the discussion focuses on commerce (electronic commerce, Asia Pacific, Europe, and the Americas, and stages of the e-business evolution), diplomacy (identification of big emerging markets), and return on investment (in terms of investment in human resources development and information technology). The section on "visions," emphasizes trends toward cybercommunities, cyberregions, and cyberstates, and lists examples of "best of the Web" sites, as well as sites for some of the world's fastest growing high-tech exporters. The section on "action plans" discusses business-to-business applications of technology, community-to-community technology applications, and education-to-education applications, with examples from the states of Pennsylvania and Wisconsin. A final section discusses the importance of international collaboration, especially between Taiwan and the United States, in planning and implementing technological advances. Visual aids for overhead projection in both English and Chinese are attached. (Contains 25 references.) (DB)

****
* Reproductions supplied by EDRS are the best that can be made *
* from the original document. *
****

ED 432 932

STRATEGIC PLANNING (THINKING) FOR THE DIGITAL ERA

Shih Hsin University
Taipei, Taiwan
May 1999

by
Warren H. Groff

Warren H. Groff

U.S. DEPARTMENT OF EDUCATION
Office of Educational Research and Improvement
EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)
This document has been reproduced as received from the person or organization originating it.
Minor changes have been made to improve reproduction quality.
Points of view or opinions stated in this document do not necessarily represent official OERI position or policy.

BEST COPY AVAILABLE

HE 032 231

CO-CREATING GLOBAL LEARNING COMMUNITIES: STRATEGIC PLANNING FOR THE DIGITAL ERA

Abstract

Warren H. Groff

Numerous issues will be important in the years ahead. But, the issue of **STRATEGICALLY THINKING** about advances in science and technology and interpreting the implications for nations and their people is by far the number one priority. Strategic planning must focus on strategic thinking about economic and technological variables for major regions of the world - the Americas with the world's largest economy; Asia Pacific with the most dynamic economies but with great disparity among the "have and have not" countries, and the European Union. Business, **COMMERCE**, is used as an example because of its link to **Quality of Life** (QOL).

Electronic Commerce (EC) is essential to compete today. A very brief overview of E-Business evolution is presented. Biometric, card, speech, and wireless technologies are being integrated into E-Business strategies. Biometrics advanced from fingerprinting to eye iris and body parts recognition. Taiwan is already a leader in the application of smart card technology and especially about the concerns over privacy. More narrowly focused projects in telecommunications and transit sectors are moving forward. Speech and wireless technology are receiving attention by corporations.

Other topics discussed include computer based distance education and training, the Chief Information Officer (CIO) role, and reengineering for Knowledge Management (KM). A Delphi on KM is yielding an interesting list of issues.

Education is faced with the challenge of modernizing curriculum to include a complex diffusion of technology that must be taught and is also a driving force to reengineer the education and training paradigm. Laptop use in education is yielding better problem solvers. Conversion of paper-based formats to electronic formats must be included in curriculum and must be applied to administrative support functions.

Cybercommunities, regions, and states are evolving. Examples in the U. S. will be briefly discussed with the hope that partnerships for global learning communities could evolve. Pennsylvania and Wisconsin are used as examples.

* * * * * * * * *

We are made wise not by the recollections of our past
but by the responsibility for our future.

George Benard Shaw

OVERVIEW

"May your fondest wishes be realized"

The world is quite different during the second half of the 1990s from the world of the first half of the 1990s and very much different from the world of the 1980s. Although the computer was born in the mid 1940s and we observed the advances in communication and information technologies for the 54 year period from 1945 to 1999, what lessons have we learned from those experiences that can be applied to help guide planning for **COMMERCE** and **DIPLOMACY** in a digital era?

Collectively we need to analyze the past and present and co-develop a preferred **VISION** of a scenario for improved quality of life with an **ACTION PLAN** for a greater number of countries and people. Comments are made about a few of the macro changes that are occurring with a focus on technology that is being applied in various ways is shaping our world. Then, comments will be made about adjustments that are being made in areas of **Human Resources Development** with emphasis on developmental tasks a university could pursue to evolve into a nationalversity, regionalversity, or globalversity. Comments will be made about curriculum, applied and basic research, service focused on cybercommunity co-development, and **Anytime Anywhere Education and Training Online**.

ANALYSIS

Planning processes have evolved over the past 50 years paralleling the evolution of technology, a point that will be addressed again later in this paper. Planning processes consist of analysis of demographic, social, economic, technological, and governmental planning variables to achieve an awareness of **OPPORTUNITIES** and threats. Planning processes also consist of an audit of culture, mission, and various categories of information that comprise the infrastructure, physical and social, and institutions of the society of which these "utilities" are a part. Education and training institutions should play a unique role in that they are to provide intellectual capital and trained workers to meet workforce needs to evolve in the digital era.

Two figures are attached to assist us in the analysis phase. They serve as a conceptual framework for thinking about visions of the preferred future and an action plan so that our fondest wishes have a better chance to be realized. Commerce, diplomacy, and Return On Investment are discussed briefly in this analysis section to lead to vision creation. Information contained in these sections are inadequate to do serious planning necessary to make fondest wishes a reality. But, the brief discussions that follow will get us started.

CONCEPTUAL FRAMEWORK FOR STRATEGICALLY THINKING ABOUT CO-CREATING GLOBAL LEARNING COMMUNITIES

Pre 2000 2001 2002 2003 2005 Post

COMMERCE - Electronic Commerce (EC) and E-BUSINESS
Asia Pacific
European Union
The Americas

DIPLOMACY

RETURN ON INVESTMENT

UNIVERSITY — NATIONALVERSITY — REGIONALVERSITY

CURRICULUM
Competencies and Skills

RESEARCH
Applied and Basic

SERVICE
Cybercommunity co-development

ADMINISTRATIVE SUPPORT

Bottom Line

IMPROVED QUALITY OF LIFE FOR MORE PEOPLE

Commerce

Commerce is essential to achieve a high quality of life and standard of living. Thus, it is critical to be aware of a few demographic and social variables and to understand economic, technological, and governmental variables for the past and present as well as estimates for future years.

The East Asia percent of goods and services produced in the world grew from 3% in the 1960s to 11% in the 1970s to 25% in the 1990s; East Asia is consuming an increased share of goods and services produced by others (Copper, 1998). East Asia will soon pass the rest of the world in production and will probably be bigger economically than the North American free trade area and the European Union combined. The most dynamic region of the world is the Pacific Rim. The Republic of China (ROC) is currently the fastest economy and has 22% of the world's population with a large middle class of people; they want to buy consumer products.

The European Union (EU) began with 350 million people in 12 nations with the highest per capital income in the world. EU expanded to 15 nations and is moving toward integration. The 15 member EU began a transition to a common currency, the "Euro," on January 1, 1999. EU is forming the Economic and Monetary Union (EMU) with a common currency, monetary policy, and interest rates. The transition is scheduled for completion in 2002. Other nations may want to join the EU.

Canada, Mexico, and the United States formed the North American Free Trade Agreement (NAFTA), a total population of 320 million people in Canada's 10 provinces, Mexico's 32 states, and the 50 U.S. states. A free trade agreement between Argentina, Brazil, Paraguay, and Uruguay began on January 1, 1995. Chile joined Mercado Comun del (MERCOSUR) in 1996 and Bolivia joined in 1997. MERCOSUR's goal is to incorporate all South American countries by 2005 before linking up with NAFTA. Envision the Americas in 2010.

Electronic Commerce (EC) evolved from Electronic Data Interchange (EDI) for exchange of research and scientific information in the 1980s. Development in the early 1990s focused on putting catalogs online and creating strategies so individuals could place an order and other related ideas. EC is evolving rapidly into **E-business** for corporations that were in the forefront of using EC/EDI and areas with well developed communications infrastructure and human resources.

Attached are two figures to assist us to understand the "Five Stages of E-Business Evolution" and to think about the application of biometric, card, speech, wireless and other technologies to **E-business strategies**. The second figure is intended to promote serious thought about education's role related to application of technologies to business.

FIVE STAGES e-BUSINESS EVOLUTION

Global Electronic Marketplace
Networked Economies
Electronic Joint Ventures
Communities
Companies

Benesko, Gary. "Beyond 2000: From EC to the Global Electronic Marketplace." The Journal of Electronic Commerce. 11 (2), pp. 8-13

Advances in Science and Technologies
Implications for Functions
FUNCTIONS

TECHNOLOGIES	INSTRUCTION	RESEARCH	SERVICE
BIOMETRICS			
SMART CARDS			
VOICE			
WIRELESS			

Diplomacy

Economic leadership via communication and information technology (CIT) is already a major theme in world affairs. Global and multinational corporations are already applying E-business strategy and techniques beyond the "chain" within the corporate enterprise to alliances and partnerships in different countries with various standards. Cultures differ considerably between among Big Emerging Markets (BEM):

Argentina	Poland
Brazil	South Africa
China	South Korea
India	Taiwan
Mexico	Turkey

Argentina, Brazil, and Mexico represent multiple Hispanic cultures that speak Spanish. The fastest growing group of people in the U.S. are Hispanics. Furthermore, beyond the three BEMs and the U.S. are the many countries with culturally diverse Hispanics. Awareness of cultural diversity is a first step in planning international trade.

BEM classification is only one variable in developing strategy. Prosperous Asian "tigers" such as Indonesia and Malaysia, the resource-rich areas of the former Soviet block or economic freedom to trade are criteria that can be used to focus resources for international efforts (Barth, 1998). An annual Index of Economic Freedom (1998) by The Heritage Foundation indicated that the countries that have the higher levels of economic freedom also have the highest standard of living and the opposite is true for least-free economies. The 1998 lists of best and worst countries are as follows:

Best 10 Countries		Next Best		Worst	
1.	Hong Kong	12.	Australia	147.	Congo/ Zaire
2.	Singapore	12.	Japan		
3.	Bahrain	14.	Belgium	147.	Iran
4.	New Zealand	14.	Canada	147.	Libya
5.	Switzerland	14.	U. Arab Emirates	147.	Somalia
6.	United States	17.	Austria	147.	Vietnam
7.	United Kingdom	17.	Chile	152.	Bosnia
7.	Taiwan	17.	Estonia	153.	Iraq
7.	Luxembourg	20.	Czech Republic	154.	Cuba
10.	Bahamas	20.	Netherlands	154.	Laos
10.	Ireland			154.	N. Korea

Diplomacy is essential. Diplomacy is required to identify markets for potential trading and create business or e-business strategy that is beneficial for both partners. Argentina, Brazil, and Mexico hold great potential for all countries in Asia Pacific, EU, and NAFTA. Culture, custom, and language are aligned with a few EU countries but there are also close ties to states like Arizona, California, Florida, and Texas. What analyses must be done and strategy created, especially diplomatic, to achieve mutual benefits?

Return On Investment (ROI)

Return On Investment (ROI) is a fundamental concept that must be fully understood when attempting to plan for Human Resources Development (HRD) and Information Technology infrastructure to create globally competitive cyberregions. Civic, economic, community and social goals should be stated as a prelude to the acquisition, deployment, and use of IT. Although awareness about the characteristics and potential of IT has implications for HRD at the outset of planning, continuing HRD is essential to achieve any major goals.

In Heading for the Next Millennium, Siemans Nixdorf discusses "The Breakthrough in User Centered Computing" and displays stages of dramatic structural change as follows:

CENTURY	TRADE	ASSETS	INSTITUTIONS
21st	Knowledge	Networks	Communities
20th	Services	Infrastructure	Bureaucracies
19th	Products	Machines	Corporations
18th	Commodities	Buildings	Towns

"Wiring The World For A Net Economy" describes the formative stage of a true World Wide Web for E-business (Steinert-Threlkeld, 1998). Countries such as Finland and Sweden make extensive use of the Internet encouraged by laws that promote the purchase and use of computers. At the other end of a continuum are many digital "have-nots" that cannot participate in a 24-7 E-business global economy. About half of the world's population has yet to make its first phone call. However, these countries are markets for potential sales to build communication infrastructure, sell technology, provide Internet services, and HRD proficiency in the use of technology for QOL in education and health. Although E-commerce between the Atlantic and Pacific oceans leads the world, rapid growth is anticipated throughout Asia and the Pacific region (Duvall, 1998 and Guglielmo, 1998).

Digital states are emerging in the U.S. The Progress and Freedom Foundation analyzes application of technology in eight categories. Washington was 1st and Wisconsin was 2nd the past two years. Pennsylvania was 4th in 1998, having climbed from 31st in 1997, and was recognized for its gain by a "Best of the Web" award by Government Technology.

ROI is an analysis between "inputs" and "outcomes." What are the costs in HRD and IT in doing business in either electronic or traditional formats in relation to returns? Could a continuing business partnership in phased stages of communication infrastructure development and wave after wave of modernization and HRD in a digital "have-not" country yield greater ROI than competing against digital "haves" for market penetration in other "have" countries? What balance is required in investment in HRD and IT for a good ROI?

VISIONS

"Computers in the future may weigh no more than 1.5 tons."
In an article in Popular Mechanics in 1949.

Art and science of strategic planning has been evolving for the past several decades. Analysis of demographic, social, economic, technological, and government variables is compared against an audit of "internal" variable such as mission and purpose, primary and support programs, fiscal resources, and other categories of information as a prelude to co-creating **VISIONS** and **ALTERNATIVE SCENARIOS** of futures. Needs assessment, market analysis, environmental scanning, and trend extrapolation of data/information can be used to add clarity to visions of the future. In addition, Delphi surveys and scenario building can be used. A second way to create scenarios is to dream about alternatives and attempt to envision a country or world with greater equality and more quality (Groff, 1988; Kull and Halal, 1999).

A conceptual framework to help envision how world competitiveness could evolve might consist of global regions on one axis and stages of technological development on the other axis. Asia Pacific countries in the Early Technical Era that are the most advanced include Australia, Hong Kong, Japan, New Zealand, Singapore, and Taiwan. These six countries are in an excellent position to pursue E-business strategies with each other in various sectors of their economies and experiment with contemporary technologies. Taiwan is already a leader in the application of smart card technology. Taiwan launched a national card project in 1992 and followed that with a second project. Both large scale projects were discontinued, the later primarily over the issue of privacy. But, a major transit and toll-collecting project is moving forward (Young, 1999). How do biometrics, card, speech, wireless, and other technologies fit a vision? Attached are diagrams to help create visions of the future.

Austria, Belgium, the Netherlands, and Switzerland rank high in being free to trade, but English is not the primary language like it is in Ireland and the United Kingdom. Also, the conversion from national currencies to the Euro is an added element to be added to Human Resources Development.

Big trading little countries could also be considered an opportunity. Austria, Belgium, Costa Rica, Israel, Jamaica, Mauritus, Morocco, Sweden, and Switzerland trade a great deal. Thus, these countries also hold potential.

Canada and the United States hold great potential for E-Business. A large market with "consumers" and "providers" who trace their origin to Asian countries, research and development resources, and multi-national companies make the countries attractive; WHAT and HOW to trade are the issues.

VISIONS

PAST	TOMORROW	BEYOND
1940s -1999	2000 - 2005	2005 - 2020

TREND ----------→

EXTRAPOLATION

DREAMS & VISIONS

←----------

EQUALITY & QUALITY

GLOBAL COMPETITIVENESS

	NOW	*2005*
GLOBAL REGION	EARLY TECHNICAL ERA	ADVANCED TECHNICAL ERA
ASIA PACIFIC		
EUROPEAN UNION		
NORTH, CENTRAL, & SOUTH AMERICA		

Resources can be accessed to clarify business visions. Centers for International Business Education and Research (CIBERs) at 26 host universities with web sites that have databases specialized in countries and regions of the world. CIBERS: http://ciber.centers.purdue.edu/scripts/schools Collaboration on database MINING could help envision plans.

Cybercommunities, cyberregions and cyberstates could be a core reason for collaboration. "Best of the Web" models:

State	Local
1. Pennsylvania www.state.ps.us	1. City of Indianapolis/ Marion County www.IndyGov.org
2. Connecticut www.state.ct.us	2. Seattle www.ci.seattle.wa.us
3. Georgia www.state.ga.us	3. Chicago www.ci.chi.il.us
4. Missouri Department of Economic Development www.ecodev.state.mo.us	4. Howard County, Md. www.co.ho.md.us
5. Florida Department of Transportation www.dot.state.fl.us	5. San Francisco www.ci.sf.ca.us

Pennsylvania's rise from 31st place to 4th place among the states and being awarded "Best of the Web" is due, in part, to the vision of the Chief Information Officer (CIO). A CIO must assist an enterprise to specify its business and then relate IT to high priority services with a high ROI. Countries may want to collaborate on a CIO role or process. Also, a Bay Area Association of Governments, San Francisco, and other groups have conducted a "Cities of the Future" conference with the World Federation of Smart Communities. Cities may want to co-create visions of networked regions.
http://www.smartcommunities.org http://www.govtech.net

Clarity in visions can be achieved by alliances and partners with a focused goals like follow-up or preparation for a trade mission. Governor Ridge and corporate leaders in Pennsylvania completed a trade mission in fall of 1997 and is revisiting some of the same countries in May, 1999. What preparations could hosts and visitors make prior to the meetings and then as part of follow through activities? High technology has potential for trading (see attachment).

ANALYSIS yields ideas of VISIONS as well as ACTION PLAN options for consideration. ACTION PLAN options will include thoughts about (a) Business to Business, (b) Community to Community and (c) Education to Education collaboration.

WORLD TRADE 100 FASTEST GROWING HIGH-TECH EXPORTERS

1. PowerQuest Corporation, Orem, UT
   http://www.powerquest.com

2. Sienna Imaging Inc., Englewood, CO
   http://www.fotoprint.com

3. Citrix Systems, Inc., Ft. Lauderdale, FL
   http://www.citrix.com

4. Etec Systems, Inc., Hayward, CA
   http://www.etec.com

5. Arterial Vascular Engineering, Inc., Santa Rosa, CA
   http://www.avei.com

6. Universal Avionics Systems Corp., Tucson, AZ
   http://www.uasc.com

7. E-Tek Dynamics, Inc., San Jose, CA
   http://www.e-tek.com

8. FLIR Systems, Inc., Portland, OR
   http://www.flir.com

9. PAREXEL International., Corp., Walthan, MA
   http://www.parexel.com

26. II-VI Incorporated, Saxonburg, PA
    http://www.iivi.com

33. Picture Tel Corporation, Andover, MA
    http://picturetel.com

45. ANSYS, Inc., Canonsburg, PA
    http://www.ansys.com

48. Thermacore, Inc., Lancaster, PA
    http://www.thermacore.com

53. CMF Technologies, Inc., West Chester, PA
    http://www.cfmtech.com

78. Centocor, Inc., Malvern, PA
    http://www.centocor.com

83. Technitrol, Trevose, PA
    http://www.technitrol.com

"World Trade 100 Fastest Growing High-Tech Exporters." World Trade, 11(10), October 1998, pp. 53-60.

ACTION PLANS

* * * * * * * * * *

DIGITAL, KNOWLEDGE-BASED ECONOMY

The 21st century will witness the rise of newer kinds of economic goods and services that are digital in form, HEAVILY DEPENDENT ON KNOWLEDGE and in many respects, will transform today's technology ...society into a digital, knowledge-based economy.

George Kozmetsky, Chairman
Executive Associate for Economic Affairs
The University of Texas System
Annual Report, IC2 Institute, 1996-1997

* * * * * * * * * *

Overview

Action plans can be specified for civic, economic, and social development goals and objectives. All require HRD. Examples include (a) Business to Business, (b) Community to Community and (c) Education to Education. Learning to learn **CRITICAL THINKING COMPETENCIES** and **PROBLEM SOLVING SKILLS** is essential now and will be more so in a knowledge economy. How will countries in Asia Pacific integrate biometric, card, voice, and wireless technologies into E-Commerce plans to evolve them into **E-Business Plans**? How will countries in Asia Pacific expand physical infrastructure for the movement of goods and the delivery of services via air, land and sea? How will Canada and selected states in the U.S. integrate those technologies and align education productivity to meet workforce needs to be competitive in the global era? How can countries co-create **LINK TO LEARN** partnerships?

Business to Business

Corporations are leading the way in the application of technologies for business. AMP, FDX, IBM, Unisys and many other global and multinational corporations are applying contemporary technology to core processes and also providing assistance to "chains" of partners to convert to electronic formats. **Enterprise Resource Planning (ERP)** is maturing across borders of countries diverse in culture, customs, language, laws, standards, technology, and other variables. The role of the **Chief Information Officer (CIO)** is critical.

Corporations will provide many significant insights to business owners who will **BROWSE** and **MINE** Web sites such as fast growing high-tech exporters. Picture Tel, ANASYS, CTI, Thermacore, CMF Technologies, Centocor, and other companies hold potential for alliances and/or partnerships.

Market Analysis has been critical in the past and is becoming even more essential. Consumer "wants" are changing from accessing more information. Providers are using better and more data to analyze needs and wants of diverse markets and market segments. What are the needs and wants of Hispanics in the Americas? The buying power of Hispanic consumers in the U.S. is growing rapidly. Hispanics will be an increasingly larger percent of the population in the U.S. Asia Pacific entrepreneurs are in competition with Hispanic providers from Central and South American to sell to this market that already is 31% of the California population. But, California also has 12% of its population from Asian Pacific countries. What alliances could be co-created?

Databases are essential. The U.S. Standard Industrial Classification (SIC) will be retired and replaced by the North American Industry Classification System (NAICS) that was developed with Canada and Mexico. NAICS is more focused and accurate because of the increase from 10 to 20 broad categories identified by a 6-digit code vs. a 4-digit code. Information: http://www.census.gov/naics

Marketing and Promoting are becoming more sophisticated via technology. A Web presence is a cost of doing business, especially for entrepreneurs in Web education and training. Marketing and Promotion strategies have always been a part of **Hospitality and Tourism Industries** that are converting to consumer proactive technologies. Reservations are made online after **BROWSING** multiple sites to **MINE** good bargains. ResortQuest International Inc. initiated online reservation booking in January 1999; officials estimated that consumers booked $2 million in reservations between January and March. Education and training online are also increasing rapidly. Electronic Commerce (EC) training programs emerged a few years ago. There are now several EC concentrations within business programs in computer based learning formats.

Goods and Services must be provided just-in-time. Three transportation firms expanded Internet offerings in the transition from delivery companies to providers of logistics-management services (Wilder, 1999). FDX unveiled a multimillion-dollar alliance with Netscape. UPS Corp. and overseas shipper APL added functions to their Web sites.

How can executives **BROWSE** and **MINE** information from Web sites about the transitions that affect their enterprise? What are the implications for education/training programs? What roles can **Chief Information Officers** (CIOs) play in a business cluster, in communities, and colleges and schools? What cognitive processes must be learned and what are the communication and information technologies that are needed?

Community to Community

"Community" is a philosophy to be co-created through relationships and shared values about Quality Of Life (QOL). A free global marketplace can yield improved QOL for more people if civic, economic, and social development goals and objectives can be agreed upon by consumers and providers. Technology can then be obtained to achieve desired outcomes.

Cybercommunities are emerging, often with assistance from business, computer, and engineering graduate programs. Blacksburg Electronic Village (http://www.bev.net) is one of the mature examples of a community - university partnership. Globally competitive cyberregions can be greatly assisted by Electronic Commerce/Electronic Data Interchange User Groups. The Delaware Valley EDI Roundtable, Inc., is one of the more mature user groups dating to the late 1980s. Programs are conducted regularly. The October 1998 program focused on:

U.S. Customs Automation Programs: IMPORTS!
Automating the Export Documentation Process
U.S. Customs Automation Program: EXPORTS!

Could collaboration on a program with a community in another country be conducted via a viodeoconferencing system? Could a program concentration on pharmaceuticals be a prelude to similar programs on other sectors of the economies?

Another idea for an Action Plan deserves some comment. Memphis In May (MIM) is a month-long international festival in which a country is celebrated to promote an understanding of cultures around the world. MIM began by honoring Japan in 1977. Although economic development may result from the activities, it has not been the central focus of the events. MIM in 1996 honored the first 20 participating countries. A curriculum guide is prepared for use in area schools. Morocco is being honored in 1999. The curriculum guide this year has many Web sites for six categories of information. This activity is a wonderful opportunity to promote cultural awareness and understanding as well as economic development.

Awareness about different cultures can be enhanced via business and tourism travel. Cities were mentioned in this document that often host conferences due to tourism sites. Conferences about Electronic Commerce (EC) could be combined with visits to several Trade Mission destinations. One such example could be around EC World '99 to be held in Orlando. Arrival could be in San Francisco and followed with visits to Milwaukee, Philadelphia, Orlando, Memphis, Austin (TX), and then either Los Angeles or San Diego. Preparation could be a collaborative effort with Web site browsing sometime in August, visitation in late September, participation in the EC World conference on October 4-7, and then the trip west. Discussion could extend beyond business to business topics to include cybercommunity to cybercommunity alliances.

Education to Education

A few nations began to adjust to an advanced era by implementing **Technology Education (TE) Programs.** TE was intended to create a "culture of technology," a spirit of continuing pursuit of awareness and understanding about the impact on our lives of advances in science and technology. Pennsylvania was a leader in developing a K-12 conceptual framework for converting to a contemporary model for TE. TE in the elementary grades (K-5 or K-6) most often will focus on "Learning Reinforcement and Technology Awareness." TE in middle level grades most often will focus on

Exploring Technology (6 and/or 7)
Applying Technology (7 and/or 8)
Creating Technology (8 and/or 9)

TE in high school grades (9-12 or 10-12) could focus on three patterns based on competencies and skills of paths (college prep, tech prep, vocational education) and cover

Technology Systems (9 or 10)

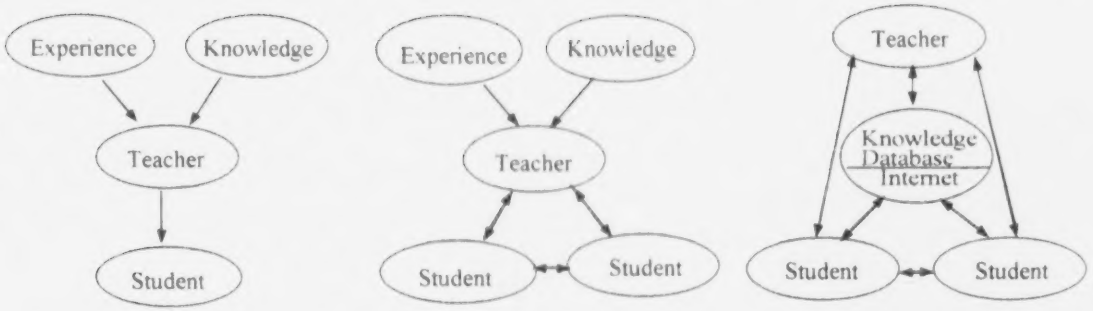
and then concentrate on careers in one of six systems:

Bio-related Technology
Communication Technology
Construction Technology
Engineering Technology
Manufacturing Technology
Transportation Technology

All advanced nations analyze economic and technological forces and trends as a prelude to designing and implementing programs to synchronize basic and higher education output with workforce needs. **LINK TO LEARN** is a program that was initiated by Governor Ridge in Pennsylvania to include more technology in curriculum content and to use technology in the delivery of instruction on campus and into communities.

http://www.state.pa.us/govstate.html

Branson (1990) compared "Schooling Models of the Past, Present, and Future" (see attached Figure). Branson's "Oral Traditional Paradigm" of the past placed most of the focus of education on the experience and knowledge of the teacher. His "Current Paradigm" continues a great deal of emphasis on the experience and knowledge of the teacher but acknowledges interaction among students as a strategy to enhance growth. Branson's "Technology-Based Paradigm" acknowledges the role of communication and information technologies in education. The role of the teacher has changed from primary provider of information based on training and experience to facilitator in discovery of quality knowledge in databases via networks. The role of the teacher becomes more of a facilitator for creating "learning communities" among students for a variety of purposes such as reading comprehension in one or more languages, writing, mathematics, science, technology, etc. A plan for maturing a "Technology-Based Paradigm" should contain goals and objectives, methodology, and evaluation.

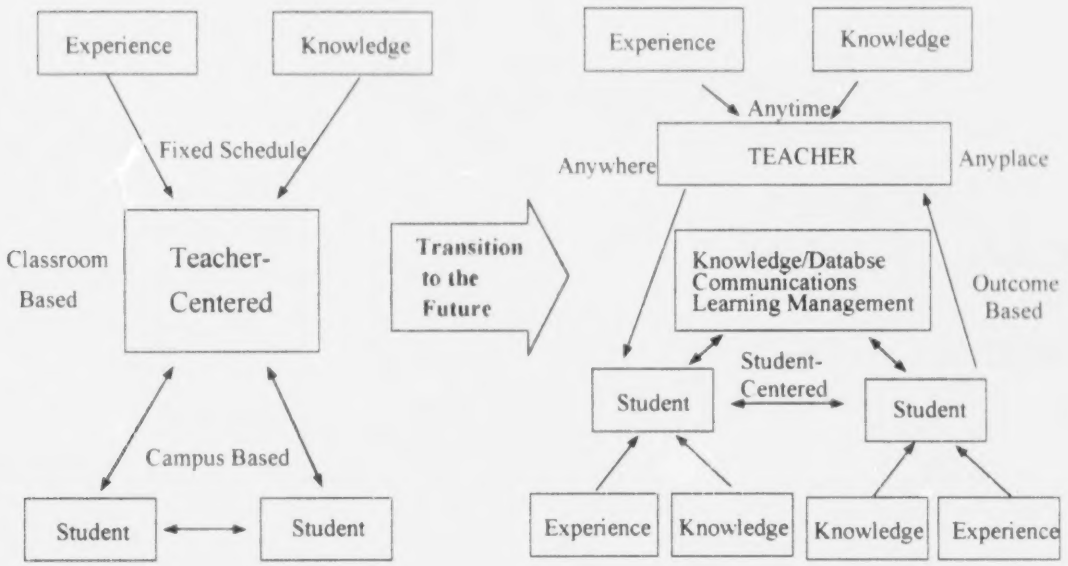


ORAL TRADITION PARADIGM (PAST)

CURRENT PARADIGM (PRESENT)

TECHNOLOGY-BASED PARADIGM (FUTURE)

Figure 1. Schooling Models of the Past, Present, and Future



CURRENT PARADIGM

TECHNOLOGY - BASED PARADIGM

Note. Adapted from Overlock,T. (1995) and from Branson, R.K. (1990).

BEST COPY AVAILABLE

A Chicago-Milwaukee corridor is an example of a region rich in global activity and potential with many implications for education and training. Air, land, and sea routes help access consumers in America's Heartland that is a rich mix of agriculture, manufacturing, and service establishments. Education is a high priority to support the cyberregion. Corporate leaders in an industrial park collaborated with the Kenosha Unified School District in the co-creation of a Lake View Technical Academy on Manufacturing & Engineering. KUSD is creating an additional academy for Communications, Biotechnical & Environmental, and Business & International. http://www.kusd.edu/ click on Indian Trail Academy The Wisconsin Technical College System and the University of Wisconsin System provide many high quality programs. Many resources are available for reengineering education.

International Studies Title VI National Resource Centers (NRCs) are funded by the federal government. A joint NRC at the University of Wisconsin-Milwaukee and UW-Madison is an excellent model and OUTREACH is a major strength of the NRC. The NRC at UWM can be accessed at www.uwm.edu/Dept/CIS All NRCs and other resources can be accessed from this site. Awareness of cultural diversity is an integral part of needs assessment and market analysis for product customization. Collaboration among alliance partners in several countries could decrease product rejection due to cultural ignorance. Ten Regional Educational Laboratories (RELs) are funded by the federal government that specialize in critical areas. Brown University has both an NRC and an REL with a specialty area in "Language and Cultural Diversity." The NRC has an excellent series on "Choices for the 21st Century." Two other RELs specialize in "Language and Cultural Diversity," including the Pacific Resources for Education & Learning REL in Hawaii. Hawaii is also the site of the East-West Center. The North Central Regional Educational Laboratory (NCREL), based in Chicago, has TECHNOLOGY as its specialty area and provides services for IL, IN, IA, MI, MN, OH, WI. NCREL's programs include Community Development, Leadership for Learning, Math and Science, and Technology (www.ncrel.org/). All RELs and other resources can be accessed from this site.

Progress is being made in the application of technology for instruction in a "Current Paradigm." Microsoft Corp. supports laptop use (www.microsoft.com/education/k12/aal). Also, notebook computers are being used by many colleges and universities (www.vcsu.nodak.edu/offices/itc/notebooks). In addition, "Technology-Based Paradigm" models are emerging as noted on the list of institutions with online programs. However, numerous issues need to be addressed. First, the research about student learning outcomes is very limited. Second, research about Return On Investment is also limited. Third, there are only a few good examples of collaboration by businesses, communities, and/or educational institutions.

ELECTRONIC EDUCATION PARADIGMS

Regional and National Consortia

National Technological University Online
http://www.ntu.edu

Western Governors University
http://www.wgu.edu

The Midwest Common Market
http://www.cic.uiuc.edu/CMCI/cmci_homepage.htm

Southern Region Electronic Campus (New regional consortium)
http://www.srec.sreb.org/

The Community College Distance Learning Network
http://ccdln.rio.maricopa.edu/

Institutional and Statewide Efforts

California Virtual University
http://www.california.edu

Connecticut State University Online
http://www.csu.ctstateu.edu/onlinecsu/

Florida's Campus
http://www.flcampus.org

Indiana College Network
http://www.icn.org

Kentucky Commonwealth Virtual University (CVU)
http://www.cpe.state.ky.us

Michigan Virtual University
http://www.mivu.org

Pennsylvania Virtual University (New consortium)
(Millersville, Shippensburg, West Chester Universities)
http://business.ship.edu/vu

Institutions

Central Michigan University
http://www.cel.cmich.edu

University College of the University of Denver
http://www.du.edu/ucol/acadprgms.html (Check EC)

Penn State World Campus
http://www.worldcampus.psu.edu

Warren H. Groff, groffw@fcae.acast.nova.edu

Collaboration for Quality of Life Worldwide

Both Taiwan and the United States have benefitted from a partnership over the past 50+ years. Technology was used to accelerate maturation through stages of industrialization and (b) for educational assistance in vocational training to prepare the critical workforces. Chang (1991) indicated that the partnership increased Per Capita Income (PCI):

Year	Income
1951	$ 100
1965	500
1990	8,000

Brekke (1999) indicated PCI exceeded $13,000 in 1998. This indicator is enough of an incentive for more collaboration. Brekke discussed the Miracle of Taiwan, with a summary of details about its democracy and the economy, with benefits. The strength of Taiwan's economy can be seen in the minimal impact the Asian crisis has had on it. Also, decisions were made to internationalize and open the economy, change from a protected export dominated economy to a highly competitive international economy. However, it is easier to import raw materials, manufacture some products efficiently, and export them to markets when limitations are set about what can come into a country. Also, it is far more difficult to sustain economic growth when nations from throughout the world sell their goods and services in a free market environment. Foreign ownership and privatization pose new challenges, especially in communication and information industries. Telecom Finland in the European Union is worthy of analysis.

A major decision led to the creation of Asian-Pacific Regional Operating Centers (APROCs) that include an Air Transportation Center and a Sea Transportation Center. APROC is intended to assist Taiwan become a competitive regional economic hub. The movement of goods produced to customers is an essential aspect of an economy. All aspects of logistics are undergoing fundamental change. Businesses, colleges, and universities in multiple countries can form an alliance to interpret decisions by FDX, UPS, APL, and other utilities that affect consumers and providers worldwide. Training programs could be delivered online for providers to adjust to new systems and make "chains" more effective.

In addition, a Communication Center and a Media Center, in Taipei, are an opportunity for businesses and education. Web-based education and training are evolving very rapidly. Consumers have a challenge of selecting from many providers. At least as important as training the current workforce is the preparation of children and youth for the digital era. Workshops on the "Global Economy and Electronic Commerce" led to curriculum in a school system that is being expanded to become an articulated school through college program that will become available in traditional and online formats.

Numerous issues will be important in the years ahead. No issue, however, will be more important than preparing human resources for Electronic-Business in the knowledge based economy. Business practices are changing, including a shift from paper-based to electronic formats. Paper-based data are being replaced in electronic information formats. A large quantity of information is available electronically. That makes it imperative that entrepreneurs be able to know how to **BROWSE** and **MINE** good **DATA** for **DECISION MAKING**. Beyond EB, biometrics, card, speech, wireless, and other technologies, collaboration on Information Technology (IT), Knowledge Management (KM), Organizational Development (OD), and the emerging role of a Chief Information Officer (CIO) could all be pursued for mutual benefit. (See Sair for articles on IT organization, people, and technology).

Education, especially universities, must be proactive partners in developing programs with contemporary content and co-creating **Anytime Anywhere Learning** cybercommunities. Education is valued in Taiwan. It is embedded in culture. Basic education has yielded students that score 1st and 2nd in math and all categories of science in international comparisons and the schools do it at a fraction of the cost of education in the U.S. But, will education be able to adjust to the needs of the digital era? An international conference on education in Taiwan in 1994 examined changing models of education from four nations. Taiwan and the U.S. have the highest percentage of computers in use in the world and could benefit from online learning. How do we proceed?

Globally competitive cybercommunities will have several common characteristics. **Industry Week** detailed management best practices of the world's most successful manufacturers for many years. IW published an analysis of characteristics of globally competitive communities in 1996. IW's research yielded 14 topics that began with "A globally competitive community introduces each new generation to the work ethic, underscoring responsibility, initiative, team participation, pride in worksmanship and other traits central to producing a gross community product of world-class quality" and listed export-oriented, partnerships, "augments basic curriculum" and other characteristics leading to Quality of Life.

"Wiring the World For a Net Economy" is the title of a special edition of Inter@ctive, 5(47), November 30, 1998. The lead article on page 16 is followed by others on Europe, Sweeden, France, other countries, then companies and cities. Then, there are articles on Asia, Australia, Brazil, South Africa, and Latin America. http://www.interactive-week.com However, the new global economy created by the spread of free trade and the use of communication and information technologies is not being made available to the poor people.

CONCLUSIONS

ANALYSIS and VISIONS provided a list of ACTION PLAN ideas that could be transformed into goals for which concensus can be reached sometime in the future. What are the areas of commerce, diplomacy, and Return On Investment that must be considered in strategic decisions? What type of curriculum, basic and applied research, services, and administrative support must a university consider to become a nationalversity and then an Asia Pacific Regionalversity? What are the Business to Business, Community to Community, and Education to Education linkages that are necessary?

The Asian-Pacific Regional Operating Centers (APROCs) could demonstrate the Miracle of Taiwan to other nations. Taiwan has become the envy of the world. Can Taiwan's success be replicated elsewhere in Asia and also in Africa? Moller, in "The Growing Challenge to Internationalism," states "The World's elite have led the march toward globalism, but millions of people see themselves as losers when national barriers fall." Advanced nations of the world must ultimately deal with dual priorities of advancing a new global economy peacefully as well as providing for a better Quality Of Life via a more equitable distribution of wealth. Advanced nations need to collaborate to achieve those goals.

* * * * * * * * * *

HUMAN RESOURCES DEVELOPMENT

> It is those populations with well trained and well educated citizenry that will transact, exchange, fashion, and construct the commerce of the world.

Robert B. Reich, The Work of Nations: Preparing Ourselves for 21st Century Capitalism. New York: Knopf, 1992.

* * * * * * * * * *

THE 21st CENTURY LEARNING INITIATIVE

> We should now do for the minds of children what the World Health Organization has done for their bodies for the past 40 years.
>
> Rothschild Natural Resources, Inc., 1995

BIBLIOGRAPHY

Barth, Steve. "Free to Trade." World Trade, 12(1), January 1998, pp. 26-29. http://www.worldtrademag.com

Benesko, Gary. "Beyond 2000: From EC to the Global Electronic Marketplace." The Journal of Electronic Commerce, 11(2), 8-13.

Bennett, Steve. "The ABCs of E-commerce." Small Business Computing, 4(3), March 1999, pp. 62-68. http://www.smalloffice.com

Branson, R. K. (April, 1990). Issues in the Design of Schooling: Changing the Paradigm. Educational Technology, pp. 7-10.

Brekke, W. A. "Taiwan's Drive to Internationalization." Asia Pacific Business Outlook 1999 Conference Proceedings, University of Southern California, March 22-24, 1999. http://www.stat-usa.gov American Institute in Taiwan

Chang, Frank Tien-Jin. "The Impact of the 1950s' Sino-American Industrial Vocation Cooperative Project on the Current Technical Vocational Education in the Republic of China." Paper presented at the Annual Meeting of the American Vocational Association, December 6-10, 1991.

Copper, John F. "U.S. and East Asia: Desperately Seeking Policies." The Commercial Appeal, March 29, 1998, pp. B3-4.

Duvall, Mel. "Asian Tiger Readies Road For E-Commerce Revolution." Inter@ctive, 5(47), November 30, 1998, p. 37. http://www.interactive-week.com

Groff, Warren H. Achieving Excellence Through Strategic Planning. Report of the 13th Annual Management Institutte for College and University Executives, 1998. (ED 298 977). This document contains the learning styles and planning preferences of 74 college and university participants. ED 290 860 compares planning styles of 14 professionals from Taiwan and 28 professionals enrolled in the doctoral seminar "Personnel - Human Resources Development" in 1986.

Groff, W. H. (1994). Toward the 21st Century: Preparing Proactive Visionary Transformational Leaders for Building Learning Communities. Human Resources Development, Orange County Cluster, Spring 1994. (ERIC Document Reproduction Service No. ED 352 126). This document contains many of the slides used at an international conference in Taiwan, 1994.

Groff, Warren H. Creating and Sustaining Learning Communities, 1996. (ERIC Document Reproduction Service No. ED 389 890). Report on advising doctoral students online.

Groff, Warren H. Creating and Sustaining Learning Communities in the Digital Era, 1996. (ERIC Document Reproduction Service No. ED 396 188). Extends ED 389 890.

Guglielmo, Connie. "Japan's 'Digital Renaissance' Man: Ito Leads Japan Into Wired Era. Inter@ctive, 5(47), November 30, 1998, p. 39. http://www.interactive-week.com

Gunnerson, Gary; Plain, Stephen W.; Karney, James; Young, Kevin, and Basales, Jamie. "Are You Ready for Biometrics." PC Magazine, 18(4), February 23, 1999, pp. 160-178. http://www.pcmag.com

Kull, Michael, and Halal, William E. "The Technology Revolution: The George Washington University Forecast of Emerging Technologies." On the Horizon, 7,(1), January/ February, 1999, pp. 1 and 5-9.

Moller, J. Orstrom. "The Growing Challenge to Internationalism." The Futurist, 33(2), March 1999, 22.

Saia, Rick. "Tomorrow's IT: The Organization." Computer World, 33(15), April 12, 1999, pp. 62-64. Other articles:
Fryer, Bronwyn. "Tomorrow's IT: The People." Computer World, 33(15), April 12, 1999, pp. 66-67.
Burden, Kevin. "Tomorrow's IT: The Technology." Computer World, 33(15), April 12, 1999, pp. 68-69 http://www.computerworld.com

Steinert-Threlkeld, Tom. "Wiring the World For a Net Economy." Inter@ctive, 5(47), November 30, 1998, p. 37. http://www.interactive-week.com

Towns, Steve. "Best of the Web 1998." Government Internet Guide, pp. 10-11 and 38-39. Government Technology supplement, October, 1998. http://www.govtech.net

White, Michael D., and Nylund, Andrea. "Big Trading - Little Countries." World Trade, 11(12) pp. 26-31.

"World Trade 100 Fastest Growing High-Tech Exporters." World Trade, 11(10), October 1998, 53-60.

Wresch, William. Disconnected: Haves and Have-Nots in the Information Age. NJ: Rutgers University Press, 1996.

Young, Alan. "Taiwan's Reach Still Exceeds Its Grasp." CARDTECHNOLOGY, February 1999, pp. 48-51.

* * * * * * * * * *

If you can dream it, you can do it.

Walt Disney World

數位化年代的策略性思考：經濟觀知識

分析	遠景	行動計劃
商業	未來構想	事業對事業
策略	**2000-2005**	社區對社區
投資	長期性	教育對教育

網際網路與大學資訊傳播教學暨課業輔導研討會

STRATEGIC THINKING FOR THE DIGITAL ERA: A KNOWLEDGE BASED ECONOMY

ANALYSIS	VISIONS	ACTION PLANS
COMMERCE	VISIONING	BUSINESS TO BUSINESS
DIPLOMACY	2000-2005	COMMUNITY TO COMMUNITY
RETURN ON INVESTMENT	FAR TERM	EDUCATION TO EDUCATION

Department of Radio, TV & Film, Shih Hisn University. 1999 (1)

策略性思考的觀念架構
共創全球性學習社區

之前　2000　2001　2002　2003　2005　之後

商業　－電子商務(EC)與電子化事業
- 亞太地區
- 歐洲聯盟
- 美洲地區

策略

投資

網際網路與大學資訊傳播教學暨課業輔導研討會

CONCEPTUAL FRAMEWORK FOR STRATEGICALLY THINKING ABOUT CO-CREATING GLOBAL LRARNING COMMUNITIES

Pre　2000　2001　2002　2003　2005　Post

COMMERCE – Electronic Commerce (CE) and E-BUSINESS
- Asia Pacific
- European Union
- The Americas

DIPLOMACY

RETURN ON INVESTMENT

大學－國際化－地區化

課程
能力與技術

研究
應用與基礎

服務
虛擬社區共同發展

行政支援

底線

替人類提升生活品質

網際網路與大學資訊傳播教學暨課業輔導研討會

UNIVERSITY－NATIONALVERSITY－REGIONALVERSITY

CURRICULUM
Competencies and Skills

RESEARCH
Applied and Basic

SERVICE
Cybercommunity co-development

ADMINISTRATIVE SUPPORT

Bottom Line

IMPROVED QUALITY OF LIFE FOR MORE PEOPLE

Department of Radio, TV & Film, Shih Hisn University. 1999 (3)

五階段電子化事業的演進

1.全球化電子化市場

2.網路經濟

3.電子化共同開發

4.社區

5.公司

Benesko, Gary. "Beyond 2000: From EC to the Global Electronic Marketplace." The Journal of Electronic Commerce. 11(2), pp. 8-13

網際網路與大學資訊傳播教學暨課業輔導研討會

FIVE STAGES E-BUSINESS EVOLUTION

1. Global Electronic Marketplace
2. Networked Economies
3. Electronic Joint Ventures
4. Communities
5. Companies

Benesko, Gary. "Beyond 2000: From EC to the Global Electronic Marketplace." The Journal of Electronic Commerce. 11(2), pp. 8-13

科技的進步在功能上的應用

功能

工業	教導	研究	服務
生物測定學			
智慧卡			
聲音			
無線			

網際網路與大學資訊傳播教學暨課業輔導研討會

Advances in Science and Technologies Implications for Functions

FUNCTIONS

TECHNOLOGIES	INSTRUCTION	RESEARCH	SERVICE
BIOMETRICS			
SMART CARDS			
VOICE			
WIRELESS			

遠　　景

過去	明天	未來
1940s-1999	2000-2005	2005-2020

趨勢

插補法

夢想與遠景

均等與品質

網際網路與大學資訊傳播教學暨課業輔導研討會

VISION

PAST	TOMORROW	BEYOND
1940s-1999	2000-2005	2005-2020

TREND

EXTRAPOLATION

DREAM & VISIONS

EQUALITY & QUALITY

全球競爭力

全球區域	現在 早期工業年代	2005 先進工業年代
亞太地區		
歐盟地區		
北美洲 中美洲 南美洲		

網際網路與大學資訊傳播教學暨課業輔導研討會

GLOBAL COMPETITIVENESS

GLOBAL REGION	NOW EARLY TECHNICAL ERA	2005 ADVANCED TECHNICAL ERA
ASIA PACIFIC		
EUROPEAN UNION		
NORTH, CENTRAL, & SOUTH AMERICAS		

全球競爭力

亞太區域	現在 早期工業年代	2005 先進工業年代
澳　洲		
香　港		
日　本 紐西蘭 菲律賓 新加坡 南韓 台　灣		

網際網路與大學資訊傳播教學暨課業輔導研討會

GLOBAL COMPETITIVENESS

ASIA PACIFIC	NOW EARLY TECHNICAL ERA	2005 ADVANCED TECHNICAL ERA
Australia		
HongKong		
Japan New Zealand Philippines Singapore South Korea Taiwan		

全球競爭力

	現在	2005
歐盟區域	早期工業年代	先進工業年代
奧地利		
比利時		
愛爾蘭 芬蘭 瑞典 英國		

網際網路與大學資訊傳播教學暨課業輔導研討會

GLOBAL COMPETITIVENESS

	NOW	2005
EUROPEAN REGION	EARLY TECHNICAL ERA	ADVANCED TECHNICAL ERA
Austria		
Belgium		
Ireland Netherlands Switzerland United Kingdom		

全球競爭力

北美區域	現在 早期工業年代	2005 先進工業年代
加拿大		
加　州		
賓　州		
田納西州		
威斯康辛		

網際網路與大學資訊傳播教學暨課業輔導研討會

GLOBAL COMPETITIVENESS

GLOBAL REGION	NOW EARLY TECHNICAL ERA	2005 ADVANCED TECHNICAL ERA
Canada		
California		
Pennsylvania		
Tennessee		
Wisconsin		

全球100大成長最快的高科技外銷公司

1. PowerQuest Corporation. Orem, UT
   http://www.powerquest.com
2. Sienna Imaging Inc., Englewood, CO
   http://www.fotoprint.com
3. Citrix Systems, Inc., Englewood, CO
   http://www.citrix.com
4. Etec Systems, Inc., Hayward, CA
   http://www.etec.com
5. Arterial Vascular Engineering, Inc., Santa Rosa, CA
   http://www.avei.com
6. Universal Avionics Systems Corp., Tucson, AZ
   http://www.uasc.com
7. E-Tek Dynamics, Inc., San Jose, CA
   http://www.e-tek.com
8. FLIR Systems, Inc., Portland, OR
   http://www.flir.com
9. PAREXEL international., Corp., Walthan, MA
   http://www.parexel.com

"World Trade 100 Fastest Growing High-Tech Exporters." World Trade 11(10), October 1998, pp. 53-60.

網際網路與大學資訊傳播教學暨課業輔導研討會

WORLD TRADE 100 FASTEST GROWING HIGH-TECH EXPORTERS

1. PowerQuest Corporation. Orem, UT
   http://www.powerquest.com
2. Sienna Imaging Inc., Englewood, CO
   http://www.fotoprint.com
3. Citrix Systems, Inc., Englewood, CO
   http://www.citrix.com
4. Etec Systems, Inc., Hayward, CA
   http://www.etec.com
5. Arterial Vascular Engineering, Inc., Santa Rosa, CA
   http://www.avei.com
6. Universal Avionics Systems Corp., Tucson, AZ
   http://www.uasc.com
7. E-Tek Dynamics, Inc., San Jose, CA
   http://www.e-tek.com
8. FLIR Systems, Inc., Portland, OR
   http://www.flir.com
9. PAREXEL international., Corp., Walthan, MA
   http://www.parexel.com

"World Trade 100 Fastest Growing High-Tech Exporters." World Trade 11(10), October 1998, pp. 53-60.

文化多樣性
（美國人口的百分比）

	加州	德州	喬治亞州
白　　人	50	56	67
非裔美人	7	12	28
西班牙人	31	28	6
亞裔美人	12	3	2

網際網路與大學資訊傳播教學暨課業輔導研討會

CULTURAL DIVERSITY
(Percent Population In States)

	California	Texas	Georgia
White	50	56	67
African American	7	12	28
Hispanic	31	28	6
Asian American	12	3	2

最好的網路贏家

州

1. 賓州
http://www.powerquest.com

2. 康乃迪克州
http://www.fotoprint.com

3. 喬治亞州
http://www.citrix.com

4. 密蘇里經濟發展部
http://www.etec.com

5. 佛羅里達州運輸部
http://www.avei.com

Towns, Steve. "Best of the Web 1998." Government Internet Guide. Supplement to Government Technology. October 1998, pp. 10-11 and 38-39.

網際網路與大學資訊傳播教學暨課業輔導研討會

BEST OF THE WEB WINNERS

STATE

1. Pennsylvania
http://www.powerquest.com

2. Connecticut
http://www.fotoprint.com

3. Georgia
http://www.citrix.com

4. Missouri Department of Economic Development
http://www.etec.com

5. Florida Department of Transportation
http://www.avei.com

Towns, Steve. "Best of the Web 1998." Government Internet Guide. Supplement to Government Technology. October 1998, pp. 10-11 and 38-39.

最好的網路贏家

州

1. 賓州
http://www.powerquest.com

2. 康乃迪克州
http://www.fotoprint.com

3. 喬治亞州
http://www.citrix.com

4. 密蘇里經濟發展部
http://www.etec.com

5. 佛羅里達州運輸部
http://www.avei.com

Towns, Steve. "Best of the Web 1998." Government Internet Guide. Supplement to Government Technology. October 1998, pp. 10-11 and 38-39.

網際網路與大學資訊傳播教學暨課業輔導研討會

BEST OF THE WEB WINNERS

STATE

1. Pennsylvania
http://www.powerquest.com

2. Connecticut
http://www.fotoprint.com

3. Georgia
http://www.citrix.com

4. Missouri Department of Economic Development
http://www.etec.com

5. Florida Department of Transportation
http://www.avei.com

Towns, Steve. "Best of the Web 1998." Government Internet Guide. Supplement to Government Technology. October 1998, pp. 10-11 and 38-39.

最好的網路贏家

地區

1. 印第安那市美倫郡
http://www.IndyGov.org

2. 西雅圖
http://wwwci.seattle.wa.us

3. 芝加哥
http://www.ci.chi.il.us

4. 哈佛郡馬里蘭
http://www.co.ho.md.us

5. 舊金山
http://www.ci.sf.ca.us

Towns, Steve. "Best of the Web 1998." Government Internet Guide. Supplement to Government Technology. October 1998, pp. 10-11 and 38-39

網際網路與大學資訊傳播教學暨課業輔導研討會

BEST OF THE WEB WINNERS

LOCAL

1. City of Indianapolis/Marion Country
http://www.IndyGov.org

2. Seattle
http://wwwci.seattle.wa.us

3. Chicago
http://www.ci.chi.il.us

4. Howard Country, Md.
http://www.co.ho.md.us

5. San Francisco
http://www.ci.sf.ca.us

Towns, Steve. "Best of the Web 1998." Government Internet Guide. Supplement to Government Technology. October 1998, pp. 10-11 and 38-39

網際網路與大學資訊傳播教學暨課業輔導研討會

搜尋寶藏

1996-97

改變模式

遠距教學

電子商務

網際網路與大學資訊傳播教學暨課業輔導研討會

BROWSING FOR MINING

1996-97

Changing Paradigms

Distance Education

Electronic Commerce

網際網路與大學資訊傳播教學暨課業輔導研討會

搜尋寶藏

1997-98

世界性商務會議廳

南韓的教育機構

課程與學生的標準

網路發展

(社區－學校－州)

網際網路與大學資訊傳播教學暨課業輔導研討會

BROWSING FOR MINING

1997-98

Chambers of Commerce World Wide

Educational Institution in S. Korea

Standards for Curriculum and Students

Web Site Development

(Communities - Schools - States)

網際網路與大學資訊傳播教學暨課業輔導研討會

改變中的模式

從書面報告到電子化格式

文件－圖片－印刷

X － 過去10年 － 現在 － 未來10年 － X

個人化電子通訊

電子新聞

教育頁
SCUP連接
新思考
校園聯繫
集中在你
線上閱讀新聞
虛擬大學報
強調科技的學習
網路化多媒體簡介

網際網路與大學資訊傳播教學暨課業輔導研討會

CHANGING PARADIGMS

From Paper Based to Electronic Formats

Documents – Graphic – Printing

X – PAST 10 – NOW – NEXT 10TEARS – X

Customized Electronic Communications

Electronic Newsletters

EDUpage
SCUPLink
New Thinking
Campus connent
Focusing On You
Online Learning News
Virtual University Gazette
Learning Technology Highlights
Networked Multimedia Briefings

Department of Radio, TV & Film, Shih Hisn University. 1999 (17)

網際網路與大學資訊傳播教學暨課業輔導研討會

建立關係
第一年的秋季

7月-8月	9月-10月	11月-12月
準備階段	訪問階段	完成階段

文化多樣化
電子化事業
資訊科技
知識管理
組織發展

主要資訊官員

網際網路與大學資訊傳播教學暨課業輔導研討會

BUILDING RELATIONSHIPS
FALL OF THE FIRST YEAR

July-August	SEPT.-OCT.	NOV.-DEC.
PREPARATION	VISITATION	FOLLOW THROUGH

CULTURAL DIVERSITY
and
Electronic Business
Information Technology
Knowledge Management
Organizational Development

Chief Information Officer

Department of Radio, TV & Film, Shih Hisn University. 1999 (18)